

**UNITED STATES DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE**

**ECOLOGICAL SITE DESCRIPTION**

**ECOLOGICAL SITE CHARACTERISTICS**

**Site Type:** Rangeland

**Site ID:** R039XB011NM

**Site Name:** Meadow

**Precipitation or Climate Zone:** 16 to 20 inches

**Phase:**

## **PHYSIOGRAPHIC FEATURES**

### **Narrative:**

This site occurs in lower lying positions and can be expected to receive runoff water from adjacent sites. A high water table characterizes the site with seasonal highs occurring usually in the spring. The site may occur as mountain valleys or swales, park or park-like areas having a water table within the root zone of the dominant vegetation, or as bottom areas bordering permanent streams. Slopes may range as high as 5 percent but will average 3 percent or less. Exposure is usually not significant, while elevations are typically 6,000 to 7,500 feet above sea level.

### **Land Form:**

1. Depression
2. Mountain valley
- 3.

### **Aspect:**

1. N/A
- 2.
- 3.

	<b>Minimum</b>	<b>Maximum</b>
<b>Elevation (feet)</b>	6,000	7,500
<b>Slope (percent)</b>	<3	5
<b>Water Table Depth (inches)</b>	6	>60
<b>Flooding:</b>	<b>Minimum</b>	<b>Maximum</b>
<b>Frequency</b>	Rare	Occasional
<b>Duration</b>	Very brief	Brief
<b>Ponding:</b>	<b>Minimum</b>	<b>Maximum</b>
<b>Depth (inches)</b>	?	?
<b>Frequency</b>	Rare	Occasional
<b>Duration</b>	Very brief	Brief

### **Runoff Class:**

Negligible to high.

## **CLIMATIC FEATURES**

### **Narrative:**

Average annual precipitation varies from approximately 16 to 20 inches, depending upon where the site is found. Years to year fluctuations in precipitation are common. Half or more of the precipitation occurring during the late fall through early spring period, often in the form of snow. The balance of the precipitation falls typically from mid June through September and is characterized by short-duration, high intensity thunderstorms.

The average frost-free season is about 103 days but is highly variable from location to location. The last killing frost in the spring occurs about June 1<sup>st</sup>, and the first killing frost may occur anytime in June and again in late August or early September. Average annual air temperature is about 50 degrees F. Monthly average air temperatures vary from 30 degrees F in January to just under 70 degrees F in August.

Both the air temperature and moisture regimes of this climate favor cool-season vegetation.

Climate data was obtained from <http://www.wrcc.sage.dri.edu/summary/climsmnm.html> web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

	<b>Minimum</b>	<b>Maximum</b>
<b>Frost-free period (days):</b>	81	112
<b>Freeze-free period (days):</b>	105	133
<b>Mean annual precipitation (inches):</b>	16	20

### **Monthly moisture (inches) and temperature (°F) distribution:**

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.79	1.00	11.1	48.2
February	.74	.81	15.0	51.6
March	.70	.85	18.3	58.3
April	.45	.65	22.3	66.4
May	.50	.56	28.5	74.5
June	.60	.74	36.3	83.6
July	2.37	2.99	46.7	84.3
August	3.15	3.29	45.5	81.1
September	1.81	2.01	37.8	77.8
October	1.15	1.57	26.5	68.8
November	.48	.84	16.3	57.3
December	1.03	1.21	11.2	49.8

**Climate Stations:**

Station ID		Location		Period	
				From:	To:
290818		Beaverhead Ranger Station, NM		01/01/39	12/31/00
295273		Luna Ranger Station, NM		01/01/14	12/31/00
294375		Jewett Ranger Station, NM		01/01/33	09/30/67

**INFLUENCING WATER FEATURES****Narrative:**

This site may be influenced by water from a wetland or stream.

**Wetland description:**

System	Subsystem	Class
N/A		

**If Riverine Wetland System enter Rosgen Stream Type:**

N/A

**REPRESENTATIVE SOIL FEATURES****Narrative:**

Soils characterizing this site are moderately deep to deep, poorly drained and formed in recent alluvium. The surface texture ranges from a very fine sandy loam to a heavy silt loam, silty clay loam or clay. Permeability ranges from moderate to slow. The soils are normally non-saline and have high organic content. Available water-holding capacity is moderate to high and the water table varies seasonally from the surface to about 5 feet. The effective rooting depth is 20 inches or more.

**Parent Material Kind:** Alluvium

**Parent Material Origin:** Mixed

**Surface Texture:**

1. Fine sandy loam
2. Silt loam
3. Silty clay loam
4. Clay

**Surface Texture Modifier:**

1. N/A
2.
3.

Subsurface Texture Group: ClayeySurface Fragments  $\leq 3''$  (% Cover): N/ASurface Fragments  $> 3''$  (% Cover): N/ASubsurface Fragments  $\leq 3''$  (%Volume): N/ASubsurface Fragments  $\geq 3''$  (%Volume): N/A

	Minimum	Maximum
Drainage Class:	Poor	Poor
Permeability Class:	Slow	Moderate
Depth (inches):	60	$> 72$
Electrical Conductivity (mmhos/cm):	?	?
Sodium Absorption Ratio:	?	?
Soil Reaction (1:1 Water):	?	?
Soil Reaction (0.1M CaCl <sub>2</sub> ):	?	?
Available Water Capacity (inches):	6	12
Calcium Carbonate Equivalent (percent):	N/A	N/A

## **PLANT COMMUNITIES**

### **Ecological Dynamics of the Site:**

### **Plant Communities and Transitional Pathways (diagram)**

**Plant Community Name:** Historic Climax Plant Community

**Plant Community Sequence Number:** 1 **Narrative Label:** HCPC

**Plant Community Narrative:** Historic Climax Plant Community

This is a highly productive site dominated by cool-season bunch grasses, sedges, and rushes. Forbs constitute approximately 10 percent of the plant community, while shrubs and half-shrubs make up 5 percent or less. Because the site is sub-irrigated, normal fluctuations in annual rainfall do not cause the wide fluctuation in plant production true of drier sites. Sedges and rushes are most conspicuous in areas where the water table raises to the surface, and in these areas may dominate almost entirely. The site is often found surrounded by pine forests.

Canopy Cover:

Shrubs and half shrubs 3 % or less

Ground Cover (Average Percent of Surface Area).

Grasses & Forbs 60

Bare ground 10

Surface cobble and stone 0

Litter (percent) 30

Litter (average depth in cm.) 6

**Plant Community Annual Production (by plant type):** \_\_\_\_\_

Plant Type	Annual Production (lbs/ac)		
	Low	RV	High
Grass/Grasslike	1,913	2,231	2,550
Forb	180	210	240
Tree/Shrub/Vine	68	79	90
Lichen			
Moss			
Microbiotic Crusts			
Total	2,250	2,625	3,000

## **Plant Community Composition and Group Annual Production:**

### **Plant Type - Grass/Grasslike**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	DECA18	Tufted Hairgrass	131 – 394	131 – 394
2	BRMA4	Mountain Brome	263 – 394	263 – 394
3	MUWR	Spike Muhly	79 – 131	79 – 131
4	AVENA	Oatgrass spp.	79 – 131	79 – 131
5	PASM ELTR7	Western Wheatgrass Slender Wheatgrass	131 – 263	131 – 263
6	CARES	Sedges spp.	263 – 394	263 – 394
7	JUNCU	Rushes spp.	131 – 263	131 – 263
8	POFE	Muttongrass	131 – 263	131 – 263
9	FEAR2	Arizona Fescue	0 – 53	0 – 53
10	MUFI2	Pullup Muhly	26 – 131	26 – 131
11	2GRAM	Other Grasses	131 – 263	131 - 263

### **Plant Type - Forb**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
12	TRIFO	Clover spp.	26 – 131	26 – 131
13	IRIS CIRSI HELIA3 ACHIL	Iris spp. Thistle spp. Sunflower spp. Yarrow spp.(Western)	131 – 263	131 – 263
14	2FORB	Other Forbs	26 – 79	26 - 79

### **Plant Type – Tree/Shrub/Vine**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
15	DAFL3 ROSA5	Shrubby Cinquefoil Wildrose	26 – 131	26 – 131
16	CHILO	Willow spp.	26 – 131	26 – 131
17	2SD	Other Shrubs	26 – 79	26 - 79

### **Plant Type - Lichen**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production



**Plant Type - Moss**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

**Plant Type - Microbiotic Crusts**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Other species may include: alpine timothy, blue grama, redtop, muhly spp., sheep fescue, meadow barley, and various half-shrubs. Timothy and Kentucky bluegrass may have become naturalized to the site.

**Plant Growth Curves**

**Growth Curve ID**    1301NM

**Growth Curve Name:**    HCPC

**Growth Curve Description:**    Cool-season bunch grassland with sedges and rushed and a minor component of forbs.

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	3	5	10	10	25	30	12	5	0	0

## **ECOLOGICAL SITE INTERPRETATIONS**

### **Animal Community:**

Habitat for Wildlife:

This site provides habitats which support a resident animal community that is characterized by gray fox, eastern cottontail, golden-mantled ground squirrel, Gunnison's prairie dog, Botta's pocket gopher, Mexican vole, killdeer, mourning dove, meadow lark, tiger salamander, Woodhouse's toad, western chorus frog, short-horned lizard, Great Plains skink, black-necked garter snake, and prairie rattlesnake.

Both the bald and golden eagles and common raven hunt over the site, and elk and deer range into it.

Where open water surface and marsh-type vegetation occurs, Arizona montane vole (Centerfire Bog only), Virginia rail, pied-billed grebe, common coot and gadwall may be present.

### **Hydrology Functions:**

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

#### **Hydrologic Interpretations**

<b>Soil Series</b>	<b>Hydrologic Group</b>

### **Recreational Uses:**

Recreation potential for camping or picnicking is limited by the density of vegetation produced when the site is at its top ecological condition and by occasional wet areas encountered. Where streams are associated with the site, trout fishing may be provided. The natural beauty of surrounding pine forests is enhanced by the contrast provided by these open mountain meadows.

### **Wood Products:**

No wood products are produced naturally on this site.

**Other Products:****Grazing:**

This site is suitable primarily for late spring through early fall grazing, depending somewhat on elevation and accessibility to better wintering country. It can be used successfully by sheep, cattle, and horses, but is best used by cattle and horses because of the coarse foliage produced by tufted hairgrass as it matures. It does not fare well under continuous use throughout the grazing season and wherever practical should be fenced and managed in a similar fashion to that of irrigated tame pasture: that is, delay grazing in the spring until plants have made adequate growth to restore root reserves, rotate livestock and defer grazing for at least a portion of the season, and realize that grazing the site while excessively wet will result in soil compaction, possible composition changes, and lowered production. Site deterioration by inadequately managed grazing is usually characterized by a decrease of tufted hairgrass and mountain brome and an increase of such species as blue grama, Kentucky bluegrass, sedges and rushes. Gullying and a subsequent lowering of the water table should also be considered a serious potential case of site deterioration.

**Other Information:****Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month**

<b>Similarity Index</b>	<b>Ac/AUM</b>
100 - 76	.75 – 1.5
75 – 51	1.0 – 2.0
50 – 26	1.5 – 3.5
25 – 0	3.5+

Plant Part	Code	Species Preference	Code
Stems	S	None Selected	NS
Leaves	L	Preferred	P
Flowers	F	Desirable	D
Fruits/Seeds	F/S	Undesirable	U
Entire Plant	EP	Not Consumed	NC
Underground Parts	UP	Emergency	E
		Toxic	T

**Plant Preference by Animal Kind:**

**Animal Kind:** Livestock

**Animal Type:** Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Tufted Hairgrass	Deschampsia caespitosa	EP	D	D	P	P	P	P	P	P	D	D	D	D
Mountain Brome	Bromus marginatus	EP	D	D	P	P	P	P	P	P	P	P	P	D
Mountain Muhly	Muhlenbergia montana	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Slender Wheatgrass	Elymus trachycalus	EP	D	D	P	P	P	P	P	P	P	P	P	D
Clover	Trifolium spp.	EP	P	P	P	P	P	P	P	P	P	P	P	P
Oatgrass	Avena spp.	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Arizona Fescue	Festuca arizonica	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Muttongrass	Poa fendleriana	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

**Animal Kind:** Livestock

**Animal Type:** Horses

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Tufted Hairgrass	Deschampsia caespitosa	EP	D	D	P	P	P	P	P	P	D	D	D	D
Mountain Brome	Bromus marginatus	EP	D	D	P	P	P	P	P	P	P	P	P	D
Mountain Muhly	Muhlenbergia montana	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Slender Wheatgrass	Elymus trachycalus	EP	D	D	P	P	P	P	P	P	P	P	P	D
Clover	Trifolium spp.	EP	P	P	P	P	P	P	P	P	P	P	P	P
Oatgrass	Avena spp.	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Arizona Fescue	Festuca arizonica	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Muttongrass	Poa fendleriana	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

**Animal Kind:** Livestock

**Animal Type:** Sheep

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Mountain Brome	Bromus marginatus	EP	D	D	P	P	P	D	D	D	D	D	D	D
Western Wheatgrass	Pascopyrum smithii	EP	U	U	D	D	D	D	D	D	D	D	D	U
Oatgrass	Avena spp.	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Clover	Trifolium spp.	EP	P	P	P	P	P	P	P	P	P	P	P	P
Muttongrass	Poa fendleriana	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Arizona Fescue	Festuca arizonica	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Slender Wheatgrass	Elymus trachycalus	EP	D	D	P	P	P	P	P	P	D	D	D	D

**Animal Kind:** Wildlife

**Animal Type:** Elk

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Tufted Hairgrass	Deschampsia caespitosa	EP	D	D	P	P	P	P	P	P	D	D	D	D
Mountain Brome	Bromus marginatus	EP	D	D	P	P	P	P	P	P	P	P	P	D
Mountain Muhly	Muhlenbergia montana	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Slender Wheatgrass	Elymus trachycalus	EP	D	D	P	P	P	P	P	P	P	P	P	D
Clover	Trifolium spp.	EP	P	P	P	P	P	P	P	P	P	P	P	P
Oatgrass	Avena spp.	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Arizona Fescue	Festuca arizonica	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Muttongrass	Poa fendleriana	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

**Animal Kind:** Wildlife

**Animal Type:** Deer

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Clover	Trifolium spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Iris	Iris spp.	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Most Annual Forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Muttongrass-early spring	Poa fendleriana	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Mountain Brome	Bromus marginatus	EP	U	U	D	D	D	U	U	U	U	U	U	U
Sunflower	Helianthus spp.	EP	U	U	U	U	U	D	D	D	U	U	U	U

## **SUPPORTING INFORMATION**

### **Associated sites:**

Site Name	Site ID	Site Narrative

### **Similar sites:**

Site Name	Site ID	Site Narrative

### **Inventory Data References (narrative):**

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### **Inventory Data References:**

Data Source	# of Records	Sample Period	State	County

### **State Correlation:**

This site has been correlated with the following sites: \_\_\_\_\_

### **Type Locality:**

State: New Mexico

County: Catron, Grant, Socorro

Latitude: \_\_\_\_\_

Longitude: \_\_\_\_\_

Township: \_\_\_\_\_

Range: \_\_\_\_\_

Section: \_\_\_\_\_

Is the type locality sensitive?    Yes ☐        No ☐

General Legal Description: \_\_\_\_\_

### **Relationship to Other Established Classifications:**

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### **Other References:**

Data collection for this site was done in conjunction with the progressive soil surveys within the Arizona and New Mexico Mountains 39 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: Socorro, Catron, Sierra and Grant.

### **Characteristic Soils Are:**

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### **Other Soils included are:**

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### **Site Description Approval:**

<u>Author</u> Don Sylvester	<u>Date</u> 02/04/81	<u>Approval</u> Don Sylvester	<u>Date</u> 02/04/81
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### **Site Description Revision:**

<u>Author</u> Elizabeth Wright	<u>Date</u> 05/20/02	<u>Approval</u> George Chavez	<u>Date</u> 2/12/03
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